

Application No.: 10/757,746
Filing Date: January 15, 2004
Page: 5

REMARKS

Claims 1 through 11, 13 through 20 and new Claim 21 are pending in the application.

Claim 1 has been amended to reflect advantageous inventive films in which the overlayer (A) includes up to 20% by weight of poly(m-xylenedipamide) and further exhibits a gloss of greater than 100. Support for this amendment can be found in the Application as filed, for example on Page 9, lines 9 through 12; Page 4, lines 5 through 6 and Claim 4 as-filed.

Claim 4 has been canceled, as its subject matter has been incorporated into Claim 1.

Claim 14 has been amended to reflect advantageous inventive films having a planar orientation of less than 0.160 that beneficially exhibit an opacity smaller than 20%. Support for this amendment can be found in the Application-as-filed, for example on Page 11, line 29 through Page 12, line 1 and Page 14, Table 1.

Claim 19 has been amended to reflect advantageous inventive films in which the base layer (B) alone includes poly(m-xylenedipamide) and the overlayer (A) exhibits a gloss of greater than 110. Support for this amendment can be found in the Application-as-filed, for example on Page 9, lines 13 through 14 and Page 14, Table 1.

Claim 21 has been added to complete the record for examination and highlight particularly advantageous embodiments of the invention.

Claim 21 is directed to especially beneficial inventive films having a base layer (B) consisting essentially of (i) one or more polyesters selected from polyethylene terephthalate, polyethylene 2,6-naphthalate, poly-1,4-cyclohexane-dimethylene terephthalate and polyethylene 2,6-naphthalate bibenzoate and (ii) poly(m-xylenedipamide). The resulting inventive films

Application No.: 10/757,746
Filing Date: January 15, 2004
Page: 6

exhibit an opacity of less than 15 %, as further recited in Claim 21. Support for Claim 21 can be found in the Application-as-filed, for example on Page 14, Table 1.

Applicants respectfully submit that this response does not raise new issues, but merely places the above-referenced application either in condition for allowance, or alternatively, in better form for appeal. Reexamination and reconsideration of this application, withdrawal of all rejections, and formal notification of the allowability of the pending claims are earnestly solicited in light of the following remarks.

The Claimed Invention is Patentable
in Light of the Art of Record

Claims 1 through 11, 13 through 18 and 20 stand rejected as anticipated by United States Patent No. 4,957,980 ("US 980") to Kobayashi et al. Claim 19 stands rejected as obvious in light of US 980.

It may be useful to briefly consider the invention before addressing the merits of the rejection.

As noted in Applicants Amendment of June 30, 2005, polyester films are widely known for packaging applications. Unfortunately, polyester alone does not exhibit the elevated level of barrier properties required in a number of applications.

Poly(m-xylenedipamide) (MXD6) is known to have superior barrier properties in comparison to polyester. Unfortunately, MXD6 and polyester are incompatible, hence films formed to-date have suffered from poor optical properties. Conventional films formed from polyester/MXD6 blends are known to exhibit high roughness values, for example. High roughness values result in a lower gloss appearance that is undesirable in many packaging applications. (The Examiner's attention is kindly directed to the Application-as-filed on Page 1,

Application No.: 10/757,746
Filing Date: January 15, 2004
Page: 7

line 30 – Page 2, line 12). Conventional films formed from polyester/MXD6 blends are also known to exhibit decreased transparency, i.e. elevated opacity, which can be similarly undesirable in packaging applications. (The Examiner's attention is kindly directed to US 980, Col. 1, lines 56 – 60).

Surprisingly, Applicants have found that overlayers may be used to address the gloss issues associated with conventional MXD6-containing polyester films. Applicants have more particularly found that MXD6-containing polyester films having at least one overlayer including either no or very moderate amounts of MXD6 may be used to produce films having both improved barrier properties (in comparison to PET) and an acceptable surface gloss.

Accordingly, the claims are directed to biaxially oriented polyester films having a base layer (B) and at least one overlayer (A). The base layer (B) comprises MXD6. The overlayer (A) includes up to 20 wt % MXD6 and exhibits a gloss of greater than 100.

In particularly advantageous embodiments, the MXD6 is present within the base layer (B) alone, i.e. the overlayer (A) includes no MXD6, as recited in Claim 19. Such advantageous inventive films beneficially exhibit a more elevated gloss, i.e. a gloss of greater than 110.

Applicants have additionally determined beneficial process conditions, i.e. planar orientation range, providing improved transparency within biaxially oriented films formed from polyester/MDX6 blends.

Consequently, particularly advantageous inventive films have a planar orientation of less than 0.160 and an opacity of less than 20, as recited in Claim 14.

US 980 does not teach or suggest the claimed invention.

Application No.: 10/757,746
Filing Date: January 15, 2004
Page: 8

Applicants respectfully reiterate that US 980 is primarily directed to hollow molded articles, such as blow molded bottles. (Col. 1, lines 5 through 9). The molded articles are formed from polyester resin that further includes polyamide. US 980 provides a laundry list of suitable polyamides, which may be present in amounts of up to 50 wt %. (Col. 2, line 61 – Col. 3, line 12 and Col. 3, lines 18 – 20). Evidencing conventional wisdom, US 980 notes that the transparency of compositions that include a “simple blend” of polyester and polyamide is “remarkably decreased”, thus limiting the widespread use of such compositions. (Col. 1, lines 29 – 60).

The impetus of US 980 is the incorporation of a compatibilizer that improves the optical properties of articles formed from polyester/polyamide blends. (Col. 1, lines 61 – 68). The compatibilizer disperses the polyamide within the polyester, thereby “remarkably” improving the transparency of the resulting molded articles. (Col. 3, lines 22 - 26). Exemplary compatibilizers include maleic acid grafted compounds and epoxy compounds. (Col. 3, lines 22 – Col. 4, line 3). The compatibilizer may be present in amounts of up to 50 parts by weight. (Col. 4, lines 4 – 7). The working examples of US 980 indicate that samples made without the required compatibilizer exhibit a transparency as low as 68 %. (Table 1, Comparative Example 3).

Applicants respectfully submit that there would have been no motivation to have looked to US 980, which is primarily directed to blow molded bottles. However, even if Applicants had looked (which they did not) the present invention would not result.

In contrast to the opinion urged within the Office Action, US 980 does teach or suggest the recited biaxially oriented multilayered films having a base layer (B) and an overlayer (A), much less such films in which the overlayer (A) includes up to 20% by weight of poly(m-xylyleneadipamide) and exhibits a gloss of greater than 100. US 980 teaches away from the recited glossy overlayer by instead incorporating a compatibilizer to address issues in polyester/polyamide blends.

Application No.: 10/757,746
Filing Date: January 15, 2004
Page: 9

US 980 likewise fails to teach or suggest such films in which the overlayer (A) does not include poly(m-xylenedipamide) and exhibits a gloss of greater than 110, as recited in Claim 19.

And US 980, which merely generically refers to the "molding" of its articles, most certainly does not teach or suggest the recited films having a planar orientation of less than 0.160 and an opacity of less than 20%, as recited in Claim 14.

Nor does US 980 teach or suggest films having a base layer (B) consisting essentially of (i) one or more polyesters selected from polyethylene terephthalate, polyethylene 2,6-naphthalate, poly-1,4-cyclohexane-dimethylene terephthalate and polyethylene 2,6-naphthalate bibenzoate and (ii) poly(m-xylenedipamide), in which the resulting polyester film exhibits an opacity of less than 20 %, as recited in new Claim 21. As noted above, US 980 instead requires the incorporation of a compatibilizer within polyester/polyamide blends and expressly teaches that films without such a compatibilizer would exhibit a maximum transparency of 75%.

US 980 thus similarly fails to teach or suggest the advantageous films of Claim 20.

Accordingly, Applicants respectfully submit that Claims 1 through 3, 5 through 11 and 13 through 21 are patentable in light of US 980.

Consideration of Previously Submitted Information Disclosure Statement

It is noted that an initialed copy of the revised PTO/SB/08A forms that were submitted with Applicants' Amendment filed June 30, 2005 have not been returned to Applicants' representative with the Office Action. Accordingly, it is requested that an initialed copy of the PTO/SB/08A forms be forwarded to the undersigned with the next communication from the PTO. In order to facilitate review of the references by the Examiner, copies of the PTO/SB/08A forms are attached hereto. Copies of the cited references were provided at the time of filing the original Information Disclosure Statement, and, therefore, no additional copies of the references

Application No.: 10/757,746
Filing Date: January 15, 2004
Page: 10

are submitted herewith. Applicants will be pleased to provide additional copies of the references upon the Examiner's request if it proves difficult to locate the original references.

CONCLUSION

It is respectfully submitted that Applicants have made a significant and important contribution to the art, which is neither disclosed nor suggested in the art. It is believed that all of pending Claims 1 through 3, 5 through 11 and 13 through 21 are now in condition for immediate allowance. It is requested that the Examiner telephone the undersigned if any questions remain to expedite examination of this application.

It is not believed that extensions of time or fees are required, beyond those which may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time and/or fees are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required is hereby authorized to be charged to Deposit Account No. 50-2193.

Respectfully submitted,

Cathy Moore

Cathy R. Moore, Reg. No. 45,764
ProPat, L.L.C.

425-C South Sharon Amity Road
Charlotte, NC 28211-2841
Telephone: (704) 365-4881
Fax: (704) 365-4851
Customer No. 38263

CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office at facsimile number (571) 273-8300 on February 21, 2006.

Claire Wygand

Claire Wygand